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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,674	04/24/2006	Noriyasu Iwane	KAWA-1003US	2289
21302 7590 06/11/2008 KNOBLE, YOSHIDA & DUNLEAVY EIGHT PENN CENTER SUITE 1350, 1628 JOHN F KENNEDY BLVD PHILADELPHIA, PA 19103				
EXAMINER				
TORRES RUZ, JOHALI ALEJANDRA				
ART UNIT		PAPER NUMBER		
2838				
MAIL DATE		DELIVERY MODE		
06/11/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/552,674

Applicant(s)

IWANE ET AL.

Examiner

JOHALI A. TORRES RUIZ

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 10/7/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SI/100)
Paper No(s)/Mail Date 10/7/2005 and 12/28/2007
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

2. Claims 1, 6-8 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Finger et al (U.S. Patent Number 4,460,870).
3. Claim 1: Finger teaches measuring voltages of a secondary battery within predetermined period of time after termination of charge or discharge to obtain a plural measured voltages along time axis; sequentially calculating the plural measured voltages to determine coefficients of a quadric or more exponential damping function which approximates time characteristic of an open circuit voltage of the secondary battery; calculating a convergent value of the open circuit voltage of the secondary battery based on at least the coefficients determined; and calculating the charged rate based on the convergent value of the open circuit voltage (Col.5, Lines 40-51).
4. Claim 6: Finger teaches the limitations of claim 1 as discussed above. Finger teaches the charged rate of at least one of two or more secondary batteries is calculated (Col.3, Lines 50-58).
5. Claim 7: Finger teaches the limitations of claim 1 as discussed above. Finger teaches the charged rates of at least two secondary batteries are calculated (Col.3, Lines 50-58); a display function which displays the charged rates of the secondary batteries (Col.6, Lines 60-67), a storage function which records history of an individual

battery, and a control and judgment function with a program to record the history of the determination (Col.4, Lines 1-11).

6. Claim 8: Finger teaches a voltage sensor to measure voltage of the secondary battery (Col.7, Lines 3-4); a control part to execute and control the computing process for calculation of the charged rate; and a storage part to store the voltage value output from the voltage sensor and the datum required for the computing process on the control part ; wherein the control part receives the output from the voltage sensor once or more within a predetermined period of time after termination of charge or discharge, stores the more than one voltage measurement value into the storage part, recursively calculates with the more than one voltage measurement value to be read from the storage part (Col.4, Lines 1-11), determines the coefficients of a quadric or more exponential damping function to approximate the time characteristic of the open circuit voltage of the secondary battery, calculates a convergent value of the open circuit voltage based on the determined coefficients, and executes to calculating the charged rate from the convergent value (Col.5, Lines 40-51).

7. Claim 13: Finger teaches the limitations of claim 8 as discussed above. Finger teaches the charged rate of at least one of two or more secondary batteries is calculated (Col.3, Lines 50-58).

8. Claim 14: Finger teaches the limitations of claim 8 as discussed above. Finger teaches the charged rates of at least two secondary batteries are calculated (Col.3, Lines 50-58); a display function which displays the charged rates of the secondary batteries (Col.6, Lines 60-67), a storage function which records history of an individual

battery, and a control and judgment function with a program to record the history of the determination (Col.4, Lines 1-11).

9. Claim 15: Finger teaches the limitations of claim 8 as discussed above. Finger teaches the apparatus for calculating charged rate of a secondary battery (Col.3, Lines 1-4).

10. Claim 16: Finger teaches the limitations of claim 15 as discussed above. Finger teaches the secondary battery is an automotive battery to supply loads on a vehicle with electric power (Col.1, Lines 12-18) (Col.3, Lines 37-41).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2-5 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finger et al (U.S. Patent Number 4,460,870) as applied to claims 1 and 8 above.

13. Claims 2-5 and 9-12: Finger teaches the limitations of claims 1 and 8 as discussed above. Finger teaches an exponential function with time (Col.5, Lines 40-44) (Fig.1). One of ordinary skill in the art with no need of undue experimentation could manipulate an exponential function given the parameters.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHALI A. TORRES RUIZ whose telephone number is

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(571)270-1262. The examiner can normally be reached on M- Alternating F 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on (571) 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Akm Enayet Ullah/
Supervisory Patent Examiner, Art
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JAT